

**Notice of Allowability**

Application No.

09/604,987

Examiner

Tuan A. Vu

Applicant(s)

PARTHASARATHY ET AL.

Art Unit

2193

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/24/2006.
2. ☒ The allowed claim(s) is/are 1-8, 10-18, 20-27 and 29-35 (renum 1-32).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>7/6/06</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                       |
|   | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

1. This action is responsive to the Applicant's response filed 4/24/2006.

As indicated in Applicant's Appeal Brief, no claims have been amended. Claims 1-8, 10-18, 20-27, 29-35 are pending in the office action.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Nilesh Amin, reg. 58,407 on 7/05/2006.

The application has been amended as follows.

In the CLAIMS:

#### **Claim 1:**

A method for facilitating integrity of an assembly employable by application programs during runtime, comprising:

providing an assembly with an assembly manifest that contains a list of modules that make up the assembly;

providing the assembly manifest with a hash of the contents of at least one module of the list of modules;

providing the assembly manifest with a hash of a manifest of at least one other assembly that the assembly depends on; and

Art Unit: 2193

comparing the hash retained in the assembly manifest with a hash of the at least one module obtained at runtime to identify whether a runtime version of the at least one module is substantially similar to a version utilized at build time of the assembly and utilizing said identification to evaluate the integrity of the assembly.

**Claim 10:**

A method for facilitating integrity of assemblies employable by application programs during runtime, comprising:

providing an assembly with an assembly manifest that contains a list of referenced assemblies that the assembly depends on;

providing the assembly manifest with a hash of a manifest of at least one referenced assembly of the list of referenced assemblies; and

analyzing the hash provided to the assembly manifest and a second hash of the manifest of the at least one referenced assembly computed at runtime to determine whether changes have been made to the at least one referenced assembly between runtime and at build time of the assembly and utilizing said determination to evaluate the integrity of the assembly.

Art Unit: 2193

**Claim 18:**

A computer readable medium having at least one computer executable component employable by an application program at runtime comprising:

an assembly including an assembly manifest that contains a list of at least one referenced assembly that the assembly references, a first hash of a manifest of the at least one referenced assembly, a list of modules that make up the assembly and a hash of the contents of at least one module of the list of modules, the hash of the contents of the at least one module is utilized to control which versions of the modules are employed in connection with the assembly at runtime;

a component that compares the first hash to a second hash produced at runtime and utilizes the determination as to whether the at least one referenced assembly is a same version as the at least one referenced assembly utilized at build time of the assembly to evaluate the integrity of the assembly.

**Claim 22:**

A computer readable medium having at least one computer executable component employable by an application program at runtime comprising:

an assembly including an assembly manifest that contains a list of at least one referenced assembly that the assembly references and a hash of the contents of a manifest of the at least one referenced assembly;[[,]]

a component that compares the hash is compared to a second hash produced at runtime and utilizes the determination as to whether the at least one referenced assembly is a same version as the at least one referenced assembly utilized at build time of the assembly to evaluate the integrity of the assembly.

Art Unit: 2193

**Claim 23:**

A computer implemented system for facilitating integrity of assemblies employable by application programs at runtime, the system comprising:

a first component that provides an assembly manifest for an assembly, the assembly manifest having a list of modules making up the assembly and a list of at least one referenced assembly that the assembly references; ~~and~~

a second component that provides the assembly manifest with a hash of at least one module of the list of modules and a hash of a manifest of the at least one referenced assembly[[,]] ; and

a third component that compares the hash of the at least one module ~~is compared~~ with a hash of the at least one module generated at runtime to identify changes in the content of the at least one module; and utilizes said identification to evaluate the integrity of the assembly.

**Claim 27:**

A computer implemented system for facilitating integrity of assemblies employable by application programs at runtime, the system comprising:

a first component that provides an assembly manifest for an assembly, the assembly manifest having at least one referenced assembly, the at least one referenced assembly comprising a manifest;

a second component that provides the assembly manifest with a hash of the manifest of the at least one referenced assembly; and

a third component that compares the hash of the at least one referenced assembly in the assembly manifest with an actual hash value of the at least one referenced assembly to identify version changes and utilizes said identification to evaluate the integrity of the assembly.

**Claim 30:**

A computer implemented system for facilitating integrity of an assembly employable by application programs at runtime, the system comprising:

means for relating an assembly manifest having a list of at least one related assembly to an assembly, the at least one related assembly comprising a manifest;

means for providing the assembly manifest with a hash of the manifest of the at least one related assembly; and

means for evaluating integrity of the assembly by comparing the hash value with a ~~second~~ hash value of a second related assembly computed at runtime.

***EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE***

Claims 1-8, 10-18, 20-27, 29-35 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art taken separately or jointly does not suggest or teach the following features.

A method for facilitating integrity of an assembly in a runtime application, the assembly provided with a manifest having a list of related or referenced assemblies that the assembly depends on or is referenced to --- OR a manifest of list of modules making up the assembly, the method comprising providing:

(i) the assembly manifest with a hash of the contents of modules of the list, the assembly manifest with a hash of a manifest of at least one other assembly that the assembly depends on;

Art Unit: 2193

comparing the hash value of said assembly module with a hash of one of the other module generated at runtime in order to determine whether a runtime version of said assembly module has changed; and uses said determination to evaluate integrity of the build time assembly; as recited in claims 1 and 23; OR

(ii) the assembly manifest with a hash of a manifest of at least one other assembly that the assembly depends on – or of the at least one referenced (or related) assembly; comparing the hash of one first referenced assembly with the hash of a second referenced assembly at runtime to determine that at least one of the referenced assembly version has changed and uses this determination to evaluate integrity of the build time assembly; as recited in claims 10, 18, 22, 27, and 30.

Renaud, (USPN: 5958051) teaches list of hashed identifiers of files and hashed signature of signature files. Shaw (USPN: 2002/0026634) teaches list of hashes of code segments/modules while Graunke (USPN: 5991399) teaches manifest file having signature of related objects referred by the file; and Evans (USPN: 5805899) teaches hash of version names of related ELF files or components. In combination, those references fail to reasonably disclose or suggest ‘providing the assembly of with *manifest with a hash of manifest* of at least one other assembly that the assembly depends on, or of at least one of the referenced assemblies in order to effectuate the integrity evaluation of (i) or (ii).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Art Unit: 2193

***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571)272-3719.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 ( for non-official correspondence - please consult Examiner before using) or 571-273-8300 ( for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAT

July 06, 2006

  
KAKALI CHAKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100



Application/Control Number: 09/604,987  
Art Unit: 2193

Page 9